State of Hawaii
Department of Health

Child and Adolescent Mental Health Division

Monthly Treatment & Progress Summary Form Report: Progress Rating Validity

June 2003: September 2005

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Executive Summary

Background/Context:

- The provider network of the Child and Adolescent Mental Health Division (CAMHD) consists of a diverse array of service programs and treatment philosophies that offer youth and families a variety of choices. Amidst this diversity, stakeholders collectively work to achieve better youth and family outcomes through delivery of accountable practices.
- The Monthly Treatment and Progress Summary form (MTPS; Child and Adolescent Mental Health Division; 2003) was designed as a tool for reporting diverse outcomes and service activities using a common language and a common measurement scale. This instrument measures service format, service setting, treatment targets, clinical progress, and treatment practices on a monthly basis at the individual youth level.
- Previous research on this measure provided support for the concurrent validity and reliability of clinician-reported treatment *targets*, but the validity of the clinical *progress ratings* for these targets was not examined prior to the current study.

Purpose:

- The purpose of this report is to examine whether clinical progress ratings on the Monthly Treatment & Progress Summary (MTPS) form, an idiographic progress measure, are meaningfully related to changes indicated on two separate standardized measures: (1) the Child and Adolescent Functional Assessment Scale (CAFAS) and (2) the Child and Adolescent Level of Care Utilization System (CALOCUS), for the quarters between June 2003 and September 2005.

Method

- Youth registered for CAMHD services between June 2003 and September 2005 with (1) fully available MTPS and CAFAS intake and treatment follow-up data or (2) MTPS and CALOCUS intake and treatment follow-up data served as participants. Participants with these available data did not differ from their non-selected counterparts on age, gender, ethnicity, principal diagnosis, and MTPS, CAFAS, and CALOCUS intake score variables.
- In order to examine whether MTPS progress ratings were meaningfully related to CAFAS and CALOCUS score changes, MTPS/CAFAS and MTPS/CALOCUS correlations were calculated at CAMHD intake and treatment follow-up.

Key Findings:

- **How many treatment targets were typically addressed per MTPS report?** On average, six to eight distinct treatment targets were endorsed per MTPS report, with approximately one-half to two-thirds of those targets remaining stable from intake to treatment follow-up.
- **What were the most commonly reported treatment targets?** Across various analyses, Anger, Positive Family Functioning, Oppositional Behavior, Academic Achievement, Treatment Engagement, and Depressed Mood were the mostly commonly reported targets.
- **Did youth MTPS, CAFAS, and CALOCUS scores improve throughout treatment?** MTPS, CAFAS, and CALOCUS level of care judgment scores all indicated significant youth improvement throughout the course of treatment across all follow-up time periods. Although effect sizes were fairly similar, indicating medium to large effects, MTPS effect sizes tended to be larger than those indicated for CAFAS and CALOCUS changes. Thus, MTPS progress ratings might be biased toward a slight overestimation of the amount of "true" improvement with service and should be interpreted accordingly.
- **Did MTPS scores relate to CAFAS and CALOCUS scores at CAMHD intake?** As expected, no significant correlations between (1) MTPS and CAFAS scores or (2) MTPS and CALOCUS level of care judgment scores were found at intake into the CAMHD system.
- **Did MTPS scores relate to CAFAS and CALOCUS scores at treatment follow-up?** Consistent with our hypotheses, significant inverse relationships emerged between (1) MTPS and CAFAS scores at three-, six-, and nine-month follow-ups and (2) MTPS and CALOCUS level of care judgment scores at three-month follow-up. Unexpectedly, no relationship between the MTPS and CALOCUS level of care judgment scores emerged at either six- or nine-month follow-up. Follow-up analyses indicated that this latter finding could

not be explained by sample differences or by differences between the overall level of care versus functional status focus of assessment within the CALOCUS.

- **Taken together, what do these findings mean?** Findings collectively indicate commonalities and differences in the measurement of change by the MTPS, CAFAS, and CALOCUS. All three measures point to significant improvements from intake to follow-up, but the type of changes measured by the MTPS and CAFAS are more alike over longer follow-up intervals than changes measured by the CALOCUS. The MTPS provides useful and nonredundant client specific treatment outcome information that can be collected on a monthly basis. While related, the MTPS, CAFAS and CALOCUS each capture unique aspects of client change.

Recommendations:

- **Continue and increase usage of MTPS**. Given supportive validity information, CAMHD should continue and increase usage of the MTPS.
- **Incorporate MTPS into client level decision making**. MTPS scores may be considered as an additional source of information (alongside standardized counterparts) for decision-making at the individual client level.
- **Consider use of MTPS for up-to-date information**. MTPS scores may serve as a viable alternative for CAMHD youth on those occasions during which a brief status report is needed, but an up-to-date standardized quarterly-administered measure score is not available.
- **Use MTPS as a supplement for program level decisions**. Although designed as an individualized measure, aggregate scoring and analysis of the MTPS appears to be reasonable for use in program evaluation as a provider-reported supplement to the care coordinator-reported CAFAS and CALOCUS.
- **Continue evaluation of MTPS.** Additional and refined analyses of the MTPS are warranted. For example, factor or cluster analysis of the targets and examination of diagnostic-specific relations may help elucidate common patterns of treatment and treatment response.
- **Increase MTPS use, accessibility and feedback**. MTPS completion rates may improve with its scheduled move from paper-and-pencil/fax entry to a system allowing for quick and direct online data entry and more readily accessible feedback from prior MTPS administrations.
- **Conduct ongoing MTPS training and review**. Ongoing training and review is recommended. For example, providing program-specific guidance for MTPS completion may be very productive when well codified (e.g., evidence-based) services are implemented. Standardized treatment procedures and progress measures could be mapped to the MTPS and integrated in foundation training for these services.

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Introduction

In this day and age of managed care, practitioners are increasingly required to demonstrate and document intervention outcomes (Callaghan, 2001; Ottenbacher & Cusick, 1990). This demand, however, frequently is tempered by the idiographic nature of both treatment and meaningful treatment outcomes. To complicate matters even further, there is evidence to suggest that community-based clinicians perceive little clinical utility and high levels of feasibility problems for standardized outcome assessment methods (Garland, Kruse, & Aarons, 2003). As such, some researchers have suggested individualized measures of psychotherapy outcome for use in clinical settings (Mintz & Kiesler, 1982).

Included among several individualized measurement strategies are the target complaints (TC; Battle, Imber, Hoehn-Sario, Nash, & Frank, 1966) and goal attainment scaling (GAS; Kiresuk, Smith, & Cardillo, 1994) methods. In an effort towards balancing the need for demonstrating intervention outcomes with the idiographic nature of individualized treatment, the Child and Adolescent Mental Health Division (CAMHD) of the Hawaii Department of Health has developed the Monthly Treatment and Progress Summary form (MTPS; Child and Adolescent Mental Health Division; 2003), which lends itself to the target complaints scoring method.

The MTPS is a locally constructed clinician report put into full production in June 2003, following statewide training in May 2003. This instrument is designed to measure service format, service setting, treatment targets, clinical progress, intervention practice elements, and provider outcomes on a monthly basis at the individual client level. Like other child status monitoring measures, MTPS reports are gathered and entered into the Child and Adolescent Mental Health Information System (CAMHMIS) through the standard operating procedures of the regional Family Guidance Centers (FGC). However, unlike other CAMHD child status monitoring measures, such as the CAFAS and CALOCUS that generally are scored and entered into CAMHMIS by care coordinators on a quarterly basis, the MTPS is filled out on a monthly basis by youths' direct service providers (and then subsequently entered into CAMHMIS by FGC staff).

Given the brief, frequent, and client-tailored nature of the MTPS, it is eventually hoped that that this measure, along side with its more intensive, infrequent, and standardized counterparts, will be able to provide meaningful outcome data at the system-wide level for informing decision makers. Towards this effort, the operating characteristics of this local idiographic progress measure must be evaluated. Previous analyses reported for this measure in CAMHD's 2004 Annual Evaluation (Daleiden, Lee, & Tolman, 2004) suggest moderate monthly-retest stability and convergence between diagnoses and treatment targets. These findings provide preliminary support for the concurrent validity and reliability of the targets endorsed, but do not address the validity of the progress ratings for the endorsed targets. The current study takes this next step to evaluate progress rating validity by examining the MTPS' relationship with standardized measures of child functioning and/or impairment.

The purpose of the present investigation is to examine the relationship between MTPS scores (therapist ratings of improvement on idiographically selected treatment targets) and two standardized measures, the CAFAS, a measure of functional impairment, and the CALOCUS, a measure utilized for judging a youth's prospective level of care. Specifically, to make an initial validity assessment, we examined the degree of change over the course of treatment as assessed by all three measures and compared changes in mean MTPS scores to (1) changes in CAFAS scores and (2) changes in CALOCUS scores, over the same periods of time. As seen in Table 1, analyses examining these relationships are conceptualized as breaking up into six differing sub-component analyses, based on the specific measure examined for analysis with the MTPS, and the amount of time between CAMHD intake and treatment follow-up.

Table 1. MTPS/CAFAS and MTPS/CALOCUS sub-component analyses at CAMHD intake and follow-up.

	Measure	
Time between intake and follow-up	MTPS-CAFAS	MTPS-CALOCUS
3 months	CAFAS 3-Month Analysis	CALOCUS 3-Month Analysis
6 months	CAFAS 6-Month Analysis	CALOCUS 6-Month Analysis
9 months	CAFAS 9-Month Analysis	CALOCUS 9-Month Analysis

We had three major hypotheses regarding our sample of CAMHD-registered youth. First, we predicted that the MTPS will point to client improvement over time comparable to improvement observed using both (1) the CAFAS and (2) the CALOCUS. Given the differing scoring systems between these three instruments, this hypothesis was examined through calculating effect sizes between intake and follow-up scores for each measure at all three-, six-, and nine-month follow-up time periods. Effect sizes measure the magnitude of a treatment effect and are expressed in standard deviation units, thereby providing a standard metric for comparison across varying instruments.

Second, we predicted no meaningful relationship (i.e., lack of a significant correlation) between (1) MTPS and CAFAS scores and (2) MTPS and CALOCUS scores at intake into the CAMHD system. In other words, given that MTPS scores represent target progress ratings, or degree of improvement from intake, it would not make sense for a significant correlation to exist between the MTPS and standardized measures at *intake* because little or no time has passed for change to occur. To test this hypothesis, the present study examined a total of six correlations: three correlations examining the relationship between intake MTPS and intake CAFAS scores for CAFAS three-, six-, and nine-month analyses (i.e., one correlation calculated within each of these subcomponent analyses), and three additional correlations examining the relationship between intake MTPS and intake CALOCUS scores for CALOCUS three-, six-, and nine-month analyses (i.e., one correlation calculated within each of these subcomponent analyses).

Third, we predicted significant inverse relationships between (1) MTPS and CAFAS scores and (2) MTPS and CALOCUS scores at three-, six-, and nine-month follow-up (i.e., after receiving three, six, and nine months of services). In other words, we predicted that increases in MTPS scores (indicative of therapeutic improvement on idiographic treatment targets) would be accompanied by (1) decreases in CAFAS scores (indicative of improved global functioning) and (2) decreases in CALOCUS scores (indicative of lower level of care judgments). Based on prior research using the target complaints and goal attainment scaling methodologies (Heavlin, Lee-Merrow, & Lewis, 1982), differences in instrument respondents (providers versus care coordinators), and differences in measure content (treatment target versus level of functioning versus service needs), we expected the magnitude of these relations to be modest. To test this hypothesis, we examined six additional correlations: three partial correlations examining the relationship between follow-up MTPS and follow-up CAFAS scores, controlling for intake scores, at three-, six-, and nine-months (i.e., one correlation calculated within each of these subcomponent analyses), and three partial correlations examining the relationship between follow-up MTPS and follow-up CALOCUS scores, controlling for intake scores, at three-, six-, and nine-months (i.e., one correlation calculated within each of these subcomponent analyses).

Methods

Description of Measures

Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1998). The CAFAS is a 200-item clinician report scale that measures youth's level of functional impairment. Based on their knowledge and experience with the child, raters review behavioral descriptions ordered by level of impairment within eight domains of functioning. The subscales of School Role Performance, Home Role Performance, Community Role Performance, Behavior Toward Others, Mood/Emotions, Mood/Self-Harmful Behavior, Substance Use, and Thinking are calculated by scoring the highest level of impairment (i.e., severe = 30, moderate = 20, mild = 10, no/minimal = 0) endorsed within the respective domain of items. An eight-scale total score

is calculated by summing across the eight subscales, whereas a five-scale total is calculate by summing the raw scores from behavior, substance use, and thinking scales with the maximum score from the school, home, and community role performance scales and with the maximum score from the emotions and self-harm. The CAFAS has been found to have acceptable internal consistency across items, inter-rater reliability across sites, and stability across time (Hodges, 1995; Hodges & Wong, 1996). Studies of concurrent validity have found that CAFAS scores are related to severity of psychiatric diagnosis, intensity of care provided, restrictiveness of living settings, juvenile justice involvement, social relationship difficulties, school-related problems, and risk factors. Studies of predictive validity have found that CAFAS scores from intake assessments predict service utilization and cost for services. Care coordinators serve as the primary raters for the CAFAS and results are entered directly into a networked computer scoring program by care coordinators or statistics clerks. CAFAS scores utilized in the current investigation were calculated using the eight-scale scoring procedure.

Child and Adolescent Level of Care Utilization System (American Academy of Child and Adolescent Psychiatry, 1999). The CALOCUS is a clinician rating form. Clinicians make dimensional ratings on a five-point scale in the domains of risk of harm, functional status, comorbidity, environmental stress, environmental support, resiliency and treatment history, child treatment acceptance and engagement, and parent treatment acceptance and engagement. These ratings may be summed to yield a total score, but are also combined through a detailed algorithm into a level of care judgment into one of seven categories: basic services (Level 0), recovery maintenance and health management (Level 1), outpatient services (Level 2), intensive outpatient services (Level 3), intensive integrated service without 24-hour medical monitoring (Level 4), non-secure, 24-hour, medically monitored services (Level 5), and secure, 24-hour, medically managed services. Preliminary reliability (Ted Fallon, 2002, personal communication) indicated that intrajudge agreement based on clinical vignettes ranged from ICC (2,2) = .57 - .95 across scales with all scale above .70 except for environmental stress and child treatment acceptance and engagement. Preliminary validity analysis found that the CALOCUS total score correlated -.33 with the Child Global Assessment of Scale (CGAS) and .62 with the CAFAS eight-scale total score. Care coordinators serve as the primary raters for the CALOCUS and results are entered directly into a networked computer scoring program by care coordinators or statistics clerks. Initial planned MTPS/CALOCUS analyses utilized CALOCUS level of care judgment scores using the method indicated above. A set of unplanned follow-up MTPS/CALOCUS analyses, on the other hand, utilized CALOCUS functional status scale scores (see Analysis and Results below).

Monthly Treatment and Progress Summary (MTPS; CAMHD 2003). The MTPS (see Appendix A) is a locally constructed clinician report form designed to measure the service format, service setting, treatment targets, clinical progress, intervention practice elements, and provider outcomes on a monthly basis. In addition to providing structured response options from which clinicians could select, the MTPS included other fields for each domain that allowed clinicians to write open-ended responses that were not addressed by the predefined fields. For the format and setting questions, clinicians are asked to indicate all formats (individual, group, parent, family, teacher, or other) and settings (home, school, community, out of home, clinic/office, or other) in which the youth received services during the reporting month. Clinicians are then asked to indicate up to 10 target competencies or concerns, which were the focus of treatment during the reporting month. The targets are selected from a list of 48 predefined targets and two additional open-response fields are provided. Clinicians then provide a rating for each target that describes the degree of progress achieved between the child's baseline level of functioning and the goal specified for the target. Progress ratings are provided on a 7-point scale (values 0-6) with the anchors of *Deterioration < 0%, No Significant changes 0 – 10%, Minimal Improvement 10 – 30%*, *Some Improvement 31 – 50%, Moderate Improvement 51 – 70%*, *Significant Improvement 71 – 90%*, and *Complete Improvement 91 – 100%*. Next, clinicians are asked to indicate all of the specific intervention strategies (a.k.a., practice elements) that were used with the child and family during the month. The MTPS records 55 predefined intervention practice elements (e.g., activity scheduling, assertiveness training, biofeedback, etc.) and allows for the write-in of up to three additional intervention practice elements per month. Finally, the MTPS provides a number of optional fields that allow providers to report other measure of outcomes that they may collect including the ASEBA, CAFAS, CALOCUS, whether the youth was arrested during the month, and the percent of school days attended. These forms and the structured codebook defining the interventions are available on the CAMHD website. Statewide training was provided on the completion of the form and definitions of various

practice elements. Additional videotaped training is available upon request to CAMHD's Clinical Services Office. MTPS mean progress rating scores were derived by averaging progress rating scores for all *stable* targets [i.e., targets reported at both intake and a specified follow-up assessment time period (i.e., three-, six-, or nine-month)] as indicated by Mintz and Kiesler (1982).

Participants

Participants in the present analysis were selected on the basis of fully available data from youth registered for CAMHD mental health services between June 2003 and September 2005. Particularly, selection for any one of the six sub-component analyses (see Table 1 above) required fully available data on both the MTPS and the standardized measure for comparison (i.e., CAFAS or CALOCUS) at two separate times; both CAMHD intake and the specified follow-up time period (three-, six-, or nine-months). See Table 2 below for a schematic layout for measures required for study participation.

Table 2. Schematic for sample selection

	Intake	Follow-up (3-, 6-, 9-months)
Standardized Comparison Measure	Intake standard report	Follow-up standard report
MTPS	Intake MTPS report	Follow-up MTPS report

Regarding standardized measure reports, youth required an "Intake standard report" (defined as a CAFAS/CALOCUS report within 45 days of intake into CAMHD) and a "Follow-up standard report" [defined as a CAFAS/CALOCUS report within 45 days of the specified post-treatment benchmark (i.e., three- six-, or nine-months after intake)]. Regarding MTPS reports, youth required an "Intake MTPS report" (defined as an MTPS report within 30 days of the "Intake standard report") and a "Follow-up MTPS report (defined as an MTPS report within 30 days of the "Follow-up standard report").

Basic demographic data for participants across all subcomponent analyses collectively suggested that slightly over half of all samples were male, the average participant was approximately 13 years old, multiethnic youth were most commonly represented, and mood, attentional, and disruptive behaviors were the most prevalent principal diagnoses. Full descriptive demographic analyses are displayed in Table 3 for CAFAS three-, six-, and nine-month analysis participants, and in Table 4 for CALOCUS three-, six-, and nine-month analysis participants.

Table 3. Demographic characteristics of CAFAS three-, six-, and nine-month analysis participants registered for services between June 2003 and September 2005.

	CAFAS 3-Month Analysis	CAFAS 6-Month Analysis	CAFAS 9-Month Analysis	CAFAS Total Sample 07/03 - 09/05
Sample Size	121	74	48	1358
Mean Age in Years (SD)	14.0 (2.9)	13.8 (3.0)	13.5 (3.1)	13.7 (3.2)
Gender (% of Total)				
Female	38.0	43.2	31.3	38.0
Male	62.0	56.8	68.8	62.0
Ethnicity (% of Available)				
African-American	0.9	1.5	0.0	0.9
American Indian	0.0	0.0	0.0	0.2
Asian				
Chinese	0.9	0.0	0.0	0.8
Filipino	2.8	4.5	7.1	5.0
Japanese	3.7	6.0	4.8	2.9
Korean	0.0	0.0	0.0	0.3
Other Asian	0.0	0.0	0.0	0.4
Hispanic or Latino				
Puerto Rican	0.0	0.0	0.0	0.2
Other Hispanic	0.0	0.0	0.0	0.8
Pacific Islander				
Guamanian or Chamorro	0.0	0.0	0.0	0.3
Micronesian	0.0	0.0	0.0	0.7
Native Hawaiian	3.7	6.0	2.4	12.8
Samoan	2.8	1.5	2.4	2.5
Other Pacific Islander	2.8	1.5	0.0	1.5
White or Caucasian	16.5	17.9	14.3	16.4
Portuguese	0.9	0.0	2.4	2.0
Multiethnic	64.2	61.2	66.7	52.0
Other Race or Ethnicity	0.9	0.0	0.0	0.2
Not Available (% of Total)	9.9	9.5	12.5	20.9
Primary Diagnosis (% of Available)				
Adjustment Disorders	5.0	5.4	2.1	6.7
Anxiety Disorders	5.0	5.4	4.2	8.3
Attentional Disorders	18.2	23.0	27.1	18.6
Disruptive Behavior Disorders	27.3	24.3	25.0	24.9
Mental Retardation	1.7	0.0	0.0	1.5
Miscellaneous Disorders	5.0	5.4	4.2	6.6
Mood Disorders	33.9	32.4	35.4	24.9
Pervasive Developmental Disorders	0.0	1.4	2.1	1.0
Substance Related Disorders	4.1	2.7	0.0	4.0
None Identified	0.0	0.0	0.0	3.6
Not Available (% of Total)	0.0	0.0	0.0	0.0

Table 4. Demographic characteristics of CALOCUS three-, six-, and nine-month analysis participants registered for services between June 2003 and September 2005.

	CALOCUS 3-Month Analysis	CALOCUS 6-Month Analysis	CALOCUS 9-Month Analysis	CALOCUS Total Sample 07/03 - 09/05
Sample Size	104	73	37	1201
Mean Age in Years (SD)	14.1 (2.78)	13.9 (3.1)	13.3 (3.0)	13.8 (3.1)
Gender (% of Total)				
Female	39.4	39.7	37.8	38.1
Male	60.6	60.3	62.2	61.9
Ethnicity (% of Available)				
African-American	1.0	1.5	0.0	1.0
American Indian	0.0	0.0	0.0	0.1
Asian				
Chinese	1.0	0.0	0.0	0.7
Filipino	4.1	2.9	6.1	4.9
Japanese	4.1	4.4	6.1	2.8
Korean	0.0	0.0	0.0	0.3
Other Asian	0.0	1.5	0.0	0.4
Hispanic or Latino				
Puerto Rican	0.0	0.0	0.0	0.2
Other Hispanic	0.0	0.0	0.0	0.7
Pacific Islander				
Guamanian or Chamorro	0.0	0.0	0.0	0.1
Micronesian	1.0	1.5	0.0	0.8
Native Hawaiian	2.1	4.4	0.0	12.8
Samoan	3.1	2.9	3.0	2.7
Other Pacific Islander	3.1	1.5	0.0	1.7
White or Caucasian	16.5	16.2	15.2	16.7
Portuguese	1.0	0.0	3.0	1.9
Multiethnic	62.9	63.2	66.7	51.9
Other Race or Ethnicity	0.0	0.0	0.0	0.2
Not Available (% of Total)	6.7	6.8	10.8	17.8
Primary Diagnosis (% of Available)				
Adjustment Disorders	4.8	5.5	2.7	6.5
Anxiety Disorders	7.7	4.1	5.4	8.7
Attentional Disorders	16.3	23.3	27.0	17.2
Disruptive Behavior Disorders	26.9	23.3	13.5	25.9
Mental Retardation	1.9	0.0	0.0	1.7
Miscellaneous Disorders	3.8	6.8	8.1	6.7
Mood Disorders	34.6	32.9	40.5	25.4
Pervasive Developmental Disorders	1.0	1.4	2.7	1.1
Substance Related Disorders	2.9	2.7	0.0	4.4
None Identified	0.0	0.0	0.0	2.4
Not Available (% of Total)	0.0	0.0	0.0	0.0

Youth selected for three-, six-, and nine-month CAFAS analysis consisted of 8.9%, 5.5%, and 3.5%, respectively, of all CAMHD youth registered for services between June 2003 and September 2005 with at least one administered

CAFAS. Youth selected for three-, six-, and nine-month CALOCUS analysis consisted of 8.7%, 6.1%, and 3.1%, respectively, of all CAMHD youth registered for services between June 2003 and September 2005 with at least one administered CALOCUS. To evaluate sample comparability, youth included and excluded from CAFAS analyses were compared on age, gender, ethnicity, principal diagnosis, and intake CAFAS score for its three-, six-, or nine-month samples. Similarly, youth included and excluded from CALOCUS were compared on age, gender, ethnicity, principal diagnosis, and intake CALOCUS level of care judgments for its three-, six-, or nine-month analyses. Analyses performed using a 99% confidence level (alpha of .01) indicated no significant differences between youth included and excluded for analyses for either measure at any follow-up time period, suggesting approximate equivalence between included and exclude groups. However, a slightly more relaxed 95% confidence level (alpha of .05) indicated that youth included for three-month CAFAS analyses had higher CAFAS scores at intake (M = 111.9, SD = 33.8) then their excluded counterparts (M = 104.1, SD = 37.8), $t(1314) = -2.20$, $p = .03$.

In addition to the comparisons above, analyses were performed in order to examine the degree of overlap between CAFAS three-, six-, and nine-month samples as well CALOCUS three-, six-, and nine-month samples. Cross tabulation results examining sample overlap for participants included and excluded from CAFAS analyses indicated a substantial degree of overlap between three-, six-, and nine-month samples. Of importance, 46 of the 74 youth included for CAFAS six-month analyses were from the three-month sample. Further, 36 of the 48 youth included for CAFAS nine-month analyses were from the three-month sample. Finally, 34 of the 48 youth included for CAFAS nine-month analyses were from the six-month sample. Collectively, this pattern of numbers suggest a single core group of participants progressing through three-, six-, and nine-month CAFAS analyses, with a small number of participants entering and leaving at differing assessment time periods. Given this degree of sample overlap between CAFAS analyses, study results should be conceptualized as overlapping (rather than independent) replications.

Cross tabulation analyses examining CALOCUS sample overlap yielded similar results, indicating an even greater degree of overlap than CAFAS samples for its three-, six-, and nine-month analyses. Specifically, 45 of the 73 youth included for CALOCUS six-month analyses were from its three-month sample. Further, 27 of the 37 youth included for CALOCUS nine-month analyses were from its three-month sample. Finally, 30 of the 37 youth included for CALOCUS nine-month analyses were from its six-month sample. Taken together, this pattern of numbers suggest a single core group of participants progressing through three-, six-, and nine-month CALOCUS analyses, with a very small number of participants entering and leaving at differing assessment time periods. Along these lines, consistent with the recommendation above for interpreting CAFAS results, CALOCUS study results should be conceptualized as overlapping (rather than independent) replications.

Analysis and Results

How Many Treatment Targets are typically addressed per MTPS report?

Six to eight treatment targets were typically endorsed on an MTPS report, with approximately one half to two-thirds of those targets remaining stable from intake to treatment follow-up. Full results for all subcomponent analyses are illustrated in Appendices B through D, respectively indicating the mean number of intake, follow-up, and stable (i.e., present at both intake *and* follow-up) treatment targets reported for CAFAS and CALOCUS three-, six-, and nine-month analyses. These results indicated that the mean number of intake targets ranged from 6.3 to 7.4, the mean number of follow-up targets ranged from 7.0 to 8.0, and the mean number of stable (i.e., present at both intake *and* follow-up) targets ranged from 4.1 to 4.6.

What are the Most Commonly Indicated Treatment Targets?

The most commonly endorsed treatment targets were Anger, Positive Family Functioning, Oppositional Behavior, Academic Achievement, Treatment Engagement, and Depressed Mood. Although many of these targets evidenced a high degree of stability (i.e., present at both intake *and* follow-up), Treatment Engagement tended to be more common at intake and Depressed Mood tended to be more common at follow-up. Additional frequency-count analyses separately examining the most commonly reported intake, follow-up, and stable (i.e., present at both intake *and* follow-up) treatment targets as they were reported for CAFAS and CALOCUS three-, six-, and nine-month analyses are displayed in Appendices B through D, respectively. Frequency counts on intake treatment targets indicated a high degree of similarity across CAFAS and CALOCUS three-, six-, and nine-month analysis samples, collectively revealing that the most common intake treatment targets were Anger, Positive Family Functioning, Treatment Engagement, Oppositional Behavior, and Academic Achievement (see Appendix B for full results). Appendix C displays the full results for frequency count analyses on follow-up treatment targets. Again, results were

remarkably similar showing the most common follow-up treatment targets to be Anger, Positive Family Functioning, Oppositional Behavior, Academic Achievement, and Depression. Finally, frequency counts on stable (i.e., present at both intake *and* follow-up) treatment targets indicated that the most common stable targets were Anger, Positive Family Functioning, Academic Achievement, Depression, and Oppositional Behavior (see Appendix D for full results on stable targets).

Did Youth MTPS and CAFAS Scores Improve from Intake through Follow-Up?

Paired sample *t*-tests performed on intake and follow-up MTPS and CAFAS scores indicated youth improvement on both measures throughout the course of treatment across all follow-up time periods. Table 5 displays the results of paired sample *t*-tests examining whether or not youth included for CAFAS analyses experienced significant increases in MTPS scores between intake and three-, six-, and nine-month follow-up time periods. All tests yielded significant results, indicating improvements (i.e., score increases) on idiographically selected treatment targets over the course of treatment for all follow-up time periods. Examined youths' intake MTPS scores ranged from 2.01 through 2.26, indicating minimal improvement at intake, and follow-up MTPS scores ranged from 3.08 through 3.20, suggesting some improvement at follow-up. Effect sizes were also calculated between intake and follow-up MTPS scores. Effect sizes measure the magnitude of a treatment effect and are expressed in standard deviation units. The effect sizes displayed in Table 5 range from medium to large, and can be conceptualized as the average standing (expressed in standard deviation units) of participants' MTPS scores at follow-up, relative to MTPS scores at intake. In this case, as seen in Table 5, the three-month analysis' effect size of 0.66 indicated that the mean MTPS three-month follow-up score is 0.66 standard deviations higher than the mean MTPS three-month intake score. Expressed in percentiles, the mean MTPS three-month follow-up score is at the 75th percentile of the mean MTPS three-month intake score. Cohen (1988) indicates that, although widely variable, effect sizes may tentatively be benchmarked at small (0.2), medium (0.5), and large (0.8) sizes.

Table 5. Intake and follow-up MTPS scores for three-, six-, and nine-month CAFAS analysis participants.

	Test Occasion	*M*	*SD*	*t*	*df*	Significance (2-tailed)	Effect Size
3-Month (n = 121)	Intake	2.26	1.28	6.77	120	< .001	0.66
	Follow-Up	3.10	1.49				
6-Month (n = 74)	Intake	2.02	1.22	4.77	73	< .001	0.87
	Follow-Up	3.08	1.62				
9-Month (n = 48)	Intake	2.01	1.21	4.29	47	< .001	0.98
	Follow-Up	3.20	1.43				

As seen in Table 6, paired sample *t*-tests indicated that youth experienced significant decreases in CAFAS scores between intake and three-, six-, and nine-month follow-up time periods, collectively suggesting improved global functioning as a result of treatment. Generally speaking, intake CAFAS scores were approximately 110, suggestive of moderate impairment, with scores tending to decrease (i.e., indicating improvements in functioning) as treatment grew longer in duration. Medium to large effect sizes were found.

Table 6. Intake and follow-up CAFAS scores for three-, six-, and nine-month CAFAS analysis participants.

	Test Occasion	*M*	*SD*	*t*	*df*	Significance (2-tailed)	Effect Size
3-Month (n = 121)	Intake	111.9	33.8	-5.48	120	< .001	-0.49
	Follow-Up	95.5	36.6				
6-Month (n = 74)	Intake	109.9	30.9	-5.06	73	< .001	-0.71
	Follow-Up	88.0	36.6				
9-Month (n = 48)	Intake	113.1	32.3	-4.36	47	< .001	-0.81
	Follow-Up	86.9	34.8				

Taken together, effect sizes calculated between intake and follow-up MTPS and CAFAS scores support the first half of our first hypothesis that the MTPS will point to client improvement over time comparable to improvement

observed using the CAFAS. It should be noted, however, that although roughly comparable, MTPS effect sizes were slightly larger than their CAFAS counterparts.

Did Youth MTPS and CALOCUS Level of Care Judgments Associated Scores Improve from Intake through Follow-Up?

Paired sample *t*-tests performed on intake and follow-up MTPS and CALOCUS level of care judgments indicated youth improvement on both measures throughout the course of treatment across all follow-up time periods. Consistent with the results displayed above in Table 5, all results in Table 7 indicate significant improvements (i.e., score increases) on idiographic treatment targets over the course of treatment at three-, six-, and nine-month follow-up assessments. Similar to MTPS scores examined for CAFAS analyses, MTPS scores featured in Table 7 indicate intake and follow-up scores ranging from 2.02 to 2.22 and 3.17 to 3.35, respectively. These results also indicated large effect sizes.

Table 7. Intake and follow-up MTPS scores for three-, six-, and nine-month CALOCUS analysis participants.

	Test Occasion	*M*	*SD*	*t*	*df*	Significance (2-tailed)	Effect Size
3-Month (n = 104)	Intake	2.22	1.25	7.06	103	< .001	0.76
	Follow-Up	3.17	1.44				
6-Month (n = 73)	Intake	2.05	1.16	5.09	72	< .001	0.99
	Follow-Up	3.20	1.55				
9-Month (n = 37)	Intake	2.14	1.27	4.67	36	< .001	0.95
	Follow-Up	3.35	1.37				

As displayed in Table 8, paired sample *t*-tests revealed that CALOCUS level of care judgment scores significantly decreased between intake and all follow-up periods, collectively indicating improvements over the course of treatment. Intake CALOCUS level of care judgment scores ranged from 3.81 to 3.92 at intake, suggesting intensively integrated services, and 2.89 to 3.43 at follow-up, indicating outpatient or intensive outpatient services. Medium to large effect sizes are indicated.

Table 8. Intake and follow-up CALOCUS level of care judgment scores for three-, six-, and nine-month CALOCUS analysis participants.

	Test Occasion	*M*	*SD*	*t*	*df*	Significance (2-tailed)	Effect Size
3-Month (n = 104)	Intake	3.92	1.16	-4.04	103	< .001	-0.42
	Follow-Up	3.43	1.28				
6-Month (n = 73)	Intake	3.77	1.38	-3.05	72	.003	-0.40
	Follow-Up	3.22	1.33				
9-Month (n = 37)	Intake	3.81	1.18	-4.05	36	< .001	-0.78
	Follow-Up	2.89	1.22				

Collectively, effect sizes calculated between intake and follow-up MTPS and CALOCUS level of care judgment scores support the second half of our first hypothesis that the MTPS will point to client improvement over time comparable to improvement observed using the CALOCUS. However, like the MTPS/CAFAS effect size findings above, MTPS effect sizes were slightly larger than their CALOCUS counterparts. Taken together, these slight difference favoring MTPS effect sizes over both CAFAS and CALOCUS effect sizes may be due to the possibility that MTPS ratings are provided directly by youths' therapists, and therefore slightly biased towards greater improvements.

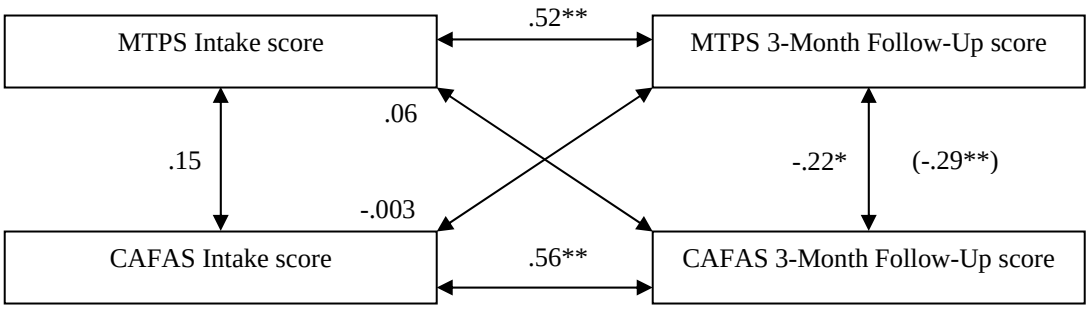
How do MTPS Scores Relate to CAFAS and CALOCUS Level of Care Judgment Scores at Three-, Six-, and Nine-Month Follow-Up Assessments?

The MTPS and standard criterion assessment measures were generally related as expected. First, no significant correlations between (1) MTPS and CAFAS scores or (2) MTPS and CALOCUS level of care judgment scores

emerged at intake into the CAMHD system. Second, significant inverse relationships emerged between (1) MTPS and CAFAS scores at three-, six-, and nine-month follow-ups and (2) MTPS and CALOCUS level of care judgment scores at three-month follow-up. No relationship between the MTPS and CALOCUS level of care judgment scores emerged at either six- or nine-month follow-up.

As previously indicated, the main purpose of this report is to examine whether change on the MTPS, an idiographic provider report progress measure, is meaningfully related to changes on the CAFAS and CALOCUS, standardized care coordinator report measures, at differing follow-up intervals. Towards this effort, cross-lag panel correlations between measures and time were examined for three-, six-, and nine-month follow-up time periods. Figure 1 depicts the cross-lag panel correlations between the MTPS and CAFAS at intake and three-month follow-up.

Figure 1. Cross-lag panel correlations between the MTPS and CAFAS at intake and three-month follow-up.



Note. Parenthesis indicates partial correlation controlling for intake scores.

**p < 0.05 (2-tailed). **p < 0.01 (2-tailed).*

As illustrated above, there was little to no relationship (r = .15) between these two measures at intake. This lack of a significant correlation supports our second hypothesis, that there would be no meaningful relationship between the MTPS (a measure of progress), and the CAFAS (a measure of functional status) at intake into our system. As expected CAFAS intake scores were significantly correlated (r = .56) with CAFAS scores at three-month follow-up. Intake MTPS progress ratings significantly correlated (r = .52) with three-month follow-up MTPS progress ratings. This relationship is somewhat expected, given the relatively short period of time between intake and follow-up (i.e., three months, also noting that intake MTPS scores may reflect treatment gains made during the first 30 days of services). As anticipated, cross-lag correlations (r = -.003; r = .06) were non-significant. Most importantly for the present report, and in support of our third hypothesis, three-month MTPS scores were significantly and inversely correlated (r = -.22) with three-month CAFAS scores. In other words, youth judged to make more improvements on idiographic treatment targets were rated as functioning better than those with smaller improvement ratings. In order to isolate any influence of intake scores on three-month correlations and to measure change from intake rather than only follow-up status, a partial correlation was calculated between three-month MTPS and CAFAS scores, controlling for intake scores on both measures. This analysis indicated a significant and inverse relationship between three-month MTPS and CAFAS follow-up scores slightly higher in magnitude (r = -.29) than the correlation (r = -.22) produced without controlling for intake scores.

Table 9 displays cross-lag panel correlations for both MTPS/CAFAS and MTPS/CALOCUS analyses at all follow-up periods. Taken together, CAFAS three-, six-, and nine-month analyses reveal several important and meaningful trends. In support of our second hypothesis, no meaningful relationships were found between MTPS and CAFAS scores at intake into our system for any CAFAS sub-component analysis. Additionally, in support of our third hypothesis, follow-up MTPS and CAFAS scores evidenced significant and inverse relationships for all follow-up time periods (r = -.22, r = -.28, and r = -.44 for three-, six-, and nine-month analyses, respectively). Although utilizing a more stringent 99% confidence interval (alpha of .01) for analyses results in nullifying these statistically significant correlations afforded at the 95% confidence interval (alpha of .05) for three- and six-month analyses, MTPS/CAFAS partial correlations holding intake scores constant indicate statistically significant and inverse correlations at the 99% confidence interval for all follow-up time periods. Moreover, as the intake to treatment

follow-up time period increases from three to six to nine months, so does the magnitude of this correlation (i.e., r = -.29, r = -.34, and r = -.43 for three-, six-, and nine-month analyses, respectively). As expected, the opposite pattern holds for the relationship between intake CAFAS scores and its follow-up counterparts. Initially at the three-month assessment, CAFAS intake and follow-up scores correlate strongly (r = .56) with each other. However, as the intake to treatment follow-up time period increases, the relationship between intake and follow-up CAFAS scores weakens, until intake CAFAS scores cannot predict follow-up CAFAS scores after nine-months of treatment. The same can be said for intake and follow-up MTPS scores, such that although intake and follow-up MTPS scores initially correlate strongly (r = .52) at three-month follow-up, no relationship exists at either six- or nine-month follow-up. Finally, consistent with Figure 1, all cross-lag correlations (i.e., intake MTPS/follow-up CAFAS and intake CAFAS/follow-up MTPS) were non-significant for all CAFAS analyses. As previously discussed, given the heavy participant overlap between three-, six-, and nine-month CAFAS analyses, results should be viewed as overlapping (rather than independent) replications. Despite this limitation, MTPS/CAFAS analyses collectively indicate a meaningful relationship between the MTPS (a measure of progress on treatment targets) and the CAFAS (a measure of functional status).

Table 9. Correlations between MTPS and standard measures at differing follow-up intervals

Measure	Time Increment	*N*	MTPS Intake to Standard Measure Intake	MTPS Intake to MTPS Follow-Up	Standard Measure Intake to Standard Measure Follow-Up	MTPS Follow-Up to Standard Measure Follow-Up	Partial Correlation for MTPS Follow-Up and Standard Scores, holding intake scores constant
CAFAS	3 months	121	.15	.52**	.56**	-.22*	-.29**
	6 months	74	.01	.12	.40**	-.28*	-.34**
	9 months	48	.14	-.06	.23	-.44**	-.43**
CALOCUS	3 months	104	.03	.49**	.49**	-.36**	-.36**
	6 months	73	.06	.01	.36**	-.20	-.19
	9 months	37	.09	.29	.33*	-.12	-.07

**p < 0.05 (2-tailed). **p < 0.01 (2-tailed).*

Analyses examining the MTPS/CALOCUS relationship can also be seen in Table 9. Although results for this cluster of analyses differed from those indicated for the MTPS/CAFAS relationship, several meaningful trends emerged. As indicated for all MTPS/CAFAS analyses, our second hypothesis is supported and no meaningful relationships between intake MTPS and intake CALOCUS level of care judgment scores were evidenced for any CALOCUS sub-component analysis. In support of our third hypothesis, a significant and inverse relationship between three-month follow-up MTPS and CALOCUS level of care judgment scores emerged, with and without controlling for intake scores. In other words, youth judged to make more improvements on idiographic treatment targets were rated as requiring lower levels of care at follow-up and showing greater change in service needs than those with smaller improvement ratings. As seen in Table 9, however, these results did not generalize to CALOCUS six- and nine-month analyses, such that no meaningful relationships between MTPS and CALOCUS measures were found at these periods. Rather, instead of the follow-up MTPS to follow-up CALOCUS relationship strengthening over time (as seen with MTPS/CAFAS analyses), increases in the intake to treatment follow-up time period lead to a weakening of this association (r = -.36, r = -.19, and r = -.07 for three-, six-, and nine-month analyses, respectively). This result aside, MTPS/CALOCUS analyses mirrored MTPS/CAFAS analyses in several ways. First, as the intake to

treatment follow-up time period increased, the relationship between intake and follow-up CALOCUS scores weakened (r = .49, r = .36, and r = .33 for three-, six-, and nine-month analyses, respectively). Additionally, all cross lag correlations (i.e., intake MTPS/follow-up CALOCUS and intake CALOCUS/follow-up MTPS) were non-significant for all follow-up periods. As with MTPS/CAFAS analyses, these time-staggered replications should be conceptualized as overlapping in nature. In summary, although MTPS and CALOCUS scores evidenced a significant and inverse relationship for three-month follow-up, such an association was not indicated for six- and nine-month follow-up.

Interestingly then, examining results for our primary correlation of interest (i.e., the partial correlation between the MTPS and its standardized counterpart, holding intake scores constant) across MTPS/CAFAS and MTPS/CALOCUS analyses, a striking pattern emerges. Whereas the MTPS/CAFAS relationship grows in magnitude and significance as the intake to treatment follow-up time period increases from three to six to nine months, the opposite can be said about the MTPS/CALOCUS relationship, which evidences decreases over time. In order to investigate variables that may have accounted for this decreasing trend in the MTPS/CALOCUS relationship, two follow-up analytic strategies were pursued. First, in order to investigate the possibility that the lack of significant MTPS/CALOCUS relationships at six- and nine-month follow-up was due to unique characteristics associated with six- and nine-month samples, MTPS/CALOCUS three-month analyses were rerun using only those youth also present in six- and nine-month samples. In other words, we asked the question, holding the three-month sample constant to only those youth also present for six- and nine-month CALOCUS analyses, would partial MTPS/CALOCUS correlations (holding intake scores constant) still emerge for three month analyses? Second, in order to examine the hypothesis that MTPS/CAFAS and MTPS/CALOCUS analyses evidenced differing partial correlation patterns over time because each standardized measure captures differing constructs, MTPS/CALOCUS analyses were rerun using CALOCUS functional status scale scores (instead of CALOCUS level of care judgment scores). Put another way, we asked, would partial MTPS/CALOCUS correlations (holding intake scores constant) for three-, six-, and nine-month analyses reach statistical significance if we utilized CALOCUS functional status scale scores (hypothesized to be somewhat similar to CAFAS scores), rather than CALOCUS level of care judgment scores?

<u>How do MTPS Scores Relate to CALOCUS Level of Care Scale Scores, Holding Overlapping Samples Constant, at Three-, Six-, and Nine-Month Follow-Up Assessment?</u>

Holding the three-month sample constant to only those youth also present for six- and nine-month CALOCUS analyses, we see that partial MTPS/CALOCUS correlations (holding intake scores constant) still reach statistical significance (see rows two and three of Table 10; r = .-37 and r = .-43 for the three/six month overlap sample and the three/nine month overlap sample, respectively). Moreover, the partial MTPS/CALOCUS correlation (holding intake scores constant) at six-month follow-up remains non-significant while holding this six-month sample constant to only those youth present for three- and nine-month CALOCUS analyses. Finally, the partial MTPS/CALOCUS correlation (holding intake scores constant) at nine-month follow-up remains non-significant while holding this nine-month sample constant to only those youth present for three- and six-month CALOCUS analyses. These results collectively suggest that the decreasing trend in MTPS/CALOCUS level of care judgment partial correlations (holding intake scores constant) at follow-up is not due to unique characteristics associated with differing samples.

Table 10. Correlations between CALOCUS and MTPS measures at differing follow-up intervals

Measure	Time Increment	*N*	MTPS Intake to CALOCUS Intake	MTPS Intake to MTPS Follow-Up	CALOCUS Intake to CALOCUS Follow-Up	MTPS Follow-Up to CALOCUS Follow-Up	Partial Correlation for MTPS Follow-Up and CALOCUS Scores, holding intake scores constant
CALOCUS	3 months	104	.03	.49**	.49**	-.36**	-.36**
		45 [a]	.20	.30*	.62**	-.37*	-.37*
		27 [b]	.22	.40*	.45*	-.52**	-.43*
	6 months	73	.06	.01	.36**	-.20	-.19
		45 [a]	.14	-.03	.52**	-.16	-.21
		30 [c]	.16	-.30	.53**	-.02	-.07
	9 months	37	.09	.29	.33*	-.12	-.07
		27 [b]	.16	.12	.51**	-.22	-.17
		30 [c]	.15	.23	.40*	-.01	.03

Note. [a] indicates sample present in both CALOCUS three- and six-month analyses, [b] indicates sample present in both CALOCUS three- and nine-month analyses, [c] indicates sample present in both CALOCUS six- and nine-month analyses

How do MTPS Scores Relate to CALOCUS Functional Status Scale Scores at Three-, Six-, and Nine-Month Follow-Up Assessments?

Table 11 displays cross-lag panel correlations for MTPS/CALOCUS functional status scale scores at all follow-up periods. Consistent with MTPS/CALOCUS level of care judgment analyses, significant and inverse MTPS/CALOCUS follow-up correlations (with and without controlling for intake scores) emerge only at the three-month assessment. In other words, youth judged to make more improvements on idiographic treatment targets at three-month follow-up were rated as functioning better than those with smaller improvement ratings. Again, rerunning analyses holding overlapping samples constant yielded a similar (but not identical) pattern of results, suggesting no undue significant biased sampling effects.

Table 11. Correlations between CALOCUS functional status scale scores and MTPS scores at differing follow-up increments

Measure	Time Increment	*N*	MTPS Intake to CALOCUS FSS Intake	MTPS Intake to MTPS Follow-Up	CALOCUS FSS Intake to CALOCUS FSS Follow-Up	MTPS Follow-Up to CALOCUS FSS Follow-Up	Partial Correlation for MTPS Follow-Up and CALOCUS FSS Scores, holding intake scores constant
CALOCUS FSS	3 months	104	-.04	.49**	.35**	-.34**	-.36**
		45 [a]	.19	.30*	.50**	-.28	-.26
		27 [b]	.21	.40*	.51**	-.38*	-.42*
	6 months	73	.15	.01	.35**	-.26*	-.19
		45 [a]	.19	-.03	.41**	-.18	-.12
		30 [c]	.32	-.30	.12	.05	.04
	9 months	37	.17	.29	.19	-.16	-.14
		27 [b]	.19	.12	.26	-.31	-.27
		30 [c]	.28	.23	.21	-.16	-.18

Summary and Recommendations

The purpose of this report is to examine whether change on the MTPS form, an idiographic provider-reported progress measure, meaningfully relates to changes indicated on the CAFAS and CALOCUS, for the period between June 2003 and September 2005. Holding intake scores constant, MTPS/CAFAS partial correlations indicate statistically significant inverse correlations at three-, six-, and nine-month follow-up benchmarks. In other words, youth judged to make more improvements on idiographic treatment targets at three-, six-, and nine-month follow-up were rated as functioning better than those with smaller improvement ratings. Moreover, as the intake to treatment follow-up time period increased from three to six to nine months, so did the magnitude of this correlation.

Holding intake scores constant, MTPS/CALOCUS level of care judgment partial correlations reach statistical significance only at three-month follow-up, suggesting that youth judged to make more improvements on idiographic treatment targets were rated as requiring lower levels of care than those with smaller improvement ratings at three-month follow-up. Unlike the MTPS/CAFAS relationship that indicated increases in magnitude as the intake to treatment follow-up time period increased from three to six to nine months, the MTPS/CALOCUS relationship evidenced decreases and no significant partial correlations at either six- or nine-month follow-ups. Follow-up analyses indicated that this latter finding could not be explained by sample differences or by differences

between the overall level of care versus functional status focus of assessment within the CALOCUS. These findings reflect a difference in the measurement of change by the MTPS, CAFAS, and CALOCUS. All three measures describe significant improvements from intake to follow-up, but the type of changes measured by the MTPS and CAFAS are more similar over longer follow-up intervals than changes measured by the CALOCUS. In this regard, the CALOCUS was not developed to be a sensitive measure of treatment outcome, but rather as a needs assessment. The CAFAS was designed and validated for the assessment of functional improvements. The MTPS was designed to be a measure of the mediating variables in the causal chain to improved functioning that were the focus of treatment and amenable to change.

Collectively, despite being somewhat mixed, findings suggest that MTPS scores may serve as valid measures of client change. Moreover, the MTPS seems to provide treatment outcome information for youth that is unique in nature; the MTPS and CAFAS and CALOCUS do not seem to be capturing the identical constructs. As such, MTPS scores may provide a shared, but unique, view of a client, alongside its standardized CAFAS and CALOCUS counterparts. Along these lines, keeping in mind that small effect size differences between these three measures may be due to the MTPS exhibiting a subtle bias towards greater improvements, several recommendations for utilizing the MTPS, as well as continued and increased usage of this measure are indicated.

- First, given its potential for providing a unique perspective on client progress, MTPS scores may serve as an additional source of information (alongside its standardized counterparts) for decision-making at the individual client level.
- Second, given the frequent, brief, and client-tailored nature of the MTPS, MTPS scores may serve as a viable alternative for CAMHD youth on those occasions during which a brief status report is needed, but an up-to-date standardized quarterly-administered measure score is not available.
- Third, although designed as an individualized measure, aggregate scoring and analysis of the MTPS appear to be reasonable for use in program evaluation as a provider-reported supplement to the care coordinator-reported CAFAS and CALOCUS.
- Fourth, given the preliminary nature of this study's findings, additional and refined analyses of the MTPS are warranted. For example, factor or cluster analysis of the targets and examination of diagnostic-specific relations may help elucidate common patterns of treatment and change.

Quality of the MTPS information may be further improved through refinement of the processes by which practitioners fill out this measure. MTPS completion rates and/or inferences drawn from future MTPS analyses may benefit from the implementation of several recommendations.

- First, MTPS completion rates may improve with its scheduled move from paper-and-pencil/fax entry to a system allowing for quick and direct online data entry and more readily accessible feedback from prior MTPS administrations.
- Second, ongoing training and review is recommended. Providing program-specific guidance for MTPS completion may also be very productive when well codified (e.g., evidence-based) services are implemented. Standardized treatment procedures and progress measures could be mapped to the MTPS and integrated in foundation training for these services. For example, multidimensional treatment foster care (MTFC) may "map" its parent daily report (PDR) to the misconduct target so that progress on the PDR is directly available for evaluation on the MTPS scale. Similarly, MST could "map" its instrumental and ultimate outcomes to MTPS targets such as youth attending school or vocational training to the truancy target. Examples of completed MTPS forms could be provided during training and compared to program summaries during monitoring.

In conjunction with prior evaluations, the current study provides additional evidence in support of the MTPS as a reasonable tool for statewide assessment of a broad array of individualized and coordinated services using a common metric. Slowly mounting evidence suggests that the MTPS bears meaningful relationships to other clinical assessments and varies systematically over time.

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Appendix A

SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY
Child and Adolescent Mental Health Division (CAMHD)

Instructions: Please complete, mail and/or FAX this form by the 5th working day of each month (summarizing the time period of 1st to the last day of the previous month) to your client's Family Guidance Center. The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards. Mahalo!

Client Name:		CR #:	DOB:
Home School:	Complex:	FGC:	IDEA/504 Status:
Primary Dx:	Level of Care (one per form):		Month/Year of Services:

Service Format (circle any that apply):
Individual Group Parent Family Teacher Other: _____

Service Setting (circle any that apply):
Home School Community Out of Home Clinic/Office Other: _____

Service Dates:																

Targets Addressed This Month (*number* up to 10):

	Activity Involvement		Contentment, Enjoyment, Happiness		Learning Disorder, Underachievement		Phobia/Fears		Sleep Disturbance
	Academic Achievement		Depressed Mood		Low Self-Esteem		Positive Thinking/ Attitude		Social Skills
	Aggression		Eating, Feeding Problems		Mania		Psychosis		Speech and Language Problems
	Anger		Empathy		Medical Regimen Adherence		Runaway		Substance Use
	Anxiety		Enuresis, Encopresis		Oppositional/ Non-Compliant Behavior		School Involvement		Suicidality
	Assertiveness		Fire Setting		Peer Involvement		School Refusal/Truancy		Traumatic Stress
	Attention Problems		Gender Identity Problems		Peer/Sibling Conflict		Self-Control		Treatment Engagement
	Avoidance		Grief		Personal Hygiene		Self-Injurious Behavior		Willful Misconduct, Delinquency
	Cognitive-Intellectual Functioning		Health Management		Positive Family Functioning		Sexual Misconduct		Other:
	Community Involvement		Hyperactivity		Positive Peer Interaction		Shyness		Other:

Progress Ratings This Month (check appropriate rating for any target numbers endorsed above):

#	Deterioration < 0%	No Significant Changes 0%-10%	Minimal Improvement 11%-30%	Some Improvement 31%-50%	Moderate Improvement 51%-70%	Significant Improvement 71%-90%	Complete Improvement 91%-100%	Date (If Complete)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

CR # _____ (please repeat the number here)

Intervention Strategies Used This Month (check all that apply):

	Activity Scheduling		Eye Movement, Tapping		Marital Therapy		Play Therapy		Stimulus or Antecedent Control
	Assertiveness Training		Family Engagement		Medication/Pharm-acotherapy		Problem Solving		Supportive Listening
	Biofeedback, Neurofeedback		Family Therapy		Mentoring		Psychoeducation, Child		Tangible Rewards
	Catharsis		Free Association		Milieu Therapy		Psychoeducation,Parent		Therapist Praise/Rewards
	Cognitive/Coping		Functional Analysis		Mindfulness		Relationship or Rapport Building		Thought Field Therapy
	Commands/ Limit Setting		Guided Imagery		Modeling		Relaxation		Time Out
	Communication Skills		Hypnosis		Motivational Interviewing		Response Cost		Twelve-step Programming
	Crisis Management		Ignoring or DRO		Natural and Logical Consequences		Response Prevention		Other:
	Directed Play		Insight Building		Parent Coping		Self-Monitoring		Other:
	Educational Support		Interpretation		Parent-Monitoring		Self-Reward/ Self-Praise		Other:
	Emotional Processing		Line of Sight Supervision		Parent Praise		Skill Building		
	Exposure		Maintenance or Relapse Prevention		Peer Modeling or Pairing		Social Skills Training		

Projected End Date: _____

Medication/Dosage: _____ No change _____ Change _____

Comments/Suggestions (*attach additional sheets if necessary*):

Outcome Measures: Optional. If you have any of the following data, please report the most recent scores:

CAFAS (8 Scales): (1:) (2:) (3:) (4:) (5:) (6:) (7:) (8:) (Total:)			Date:
CALOCUS (Total):	CALOCUS (Level of Care):		Date:
CBCL (Total Problems T):	CBCL (Internalizing T):	CBCL (Externalizing T):	Date:
YSR (Total Problems T):	YSR (Internalizing T):	YSR (Externalizing T):	Date:
TRF (Total Problems T):	TRF (Internalizing T):	TRF (Externalizing T):	Date:
Arrested? (Y/N):	School attendance (% of days):		

Provider Agency & Island: _____Clinician Name and ID#:_____
Provider Signature: _____ Clinician Signature: _____
Mail ☐ Fax ☐ to FGC (date): _____ Care Coordinator: _____ Date FGC Rec'd: _____

Appendix B: The Most Commonly Indicated Intake Treatment Targets

	CAFAS Analyses			CALOCUS Analyses		
	3-Month	6-Month	9-Month	3-Month	6-Month	9-Month
Five Most Common Treatment Targets (%)	Positive Family Functioning (62.8)	Positive Family Functioning (55.4)	Positive Family Functioning (47.9)	Positive Family Functioning (62.5)	Positive Family Functioning (52.1)	Depressed Mood (51.4)
	Treatment Engagement (52.1)	Treatment Engagement (50.0)	Anger (43.8)	Treatment Engagement (50.0)	Anger (47.9)	Anger (48.6)
	Oppositional Behavior (47.1)	Anger (45.9)	Treatment Engagement (41.7)	Oppositional Behavior (46.2)	Treatment Engagement (46.6)	Positive Family Functioning (48.6)
	Anger (38.0)	Oppositional Behavior (44.6)	Depressed Mood (39.6)	Anger (40.4)	Oppositional Behavior (39.7)	Treatment Engagement (37.8)
	Academic Achievement (35.5)	Academic Achievement (35.1)	Academic Achievement (35.4)	Academic Achievement (37.5)	Academic Achievement (31.5)	Positive Peer Interaction (35.1)
			Oppositional Behavior (35.4)		Depressed Mood (31.5)	Anxiety (35.1)
Targets: *M* (*SD*)	6.3 (2.3)	6.4 (2.5)	6.6 (2.6)	6.7 (2.8)	6.6 (2.5)	7.4 (2.4)

Appendix C: The Most Commonly Indicated Follow-Up Treatment Targets

	CAFAS Analyses			CALOCUS Analyses		
	3-Month	6-Month	9-Month	3-Month	6-Month	9-Month
Five Most Common Treatment Targets (%)	Positive Family Functioning (71.1) Oppositional Behavior (60.3) Anger (43.8) Academic Achievement (41.3) Treatment Engagement (33.9)	Positive Family Functioning (74.3) Oppositional Behavior (55.4) Anger (47.3) Depressed Mood (36.5) Academic Achievement (35.1)	Positive Family Functioning (68.8) Anger (43.8) Academic Achievement (39.6) Oppositional Behavior (39.6) Depressed Mood (37.5)	Positive Family Functioning (71.2) Treatment Engagement (60.6) Oppositional Behavior (46.2) Anger (41.3) Academic Achievement (34.6)	Positive Family Functioning (71.2) Anger (50.7) Oppositional Behavior (46.6) Depressed Mood (35.6) Substance Use (34.2)	Positive Family Functioning (64.9) Anger (48.6) Depressed Mood (48.6) Academic Achievement (37.8) Oppositional Behavior (37.8) Self-Esteem (37.8)
Targets: *M* (*SD*)	7.0 (2.6)	7.2 (2.3)	7.3 (2.5)	7.3 (2.5)	7.3 (2.2)	8.0 (2.2)

Appendix D: The Most Commonly Indicated Stable Treatment Targets

	CAFAS Analyses			CALOCUS Analyses		
	3-Month	6-Month	9-Month	3-Month	6-Month	9-Month
Five Most Common Treatment Targets (%)	Positive Family Functioning (52.9)	Positive Family Functioning (52.7)	Positive Family Functioning (41.7)	Positive Family Functioning (51.9)	Positive Family Functioning (49.3)	Positive Family Functioning (43.2)
	Oppositional Behavior (41.3)	Anger (36.5)	Anger (31.3)	Oppositional Behavior (40.4)	Anger (39.7)	Depressed Mood (37.8)
	Anger (30.6)	Oppositional Behavior (33.8)	Depressed Mood (27.1)	Anger (33.7)	Oppositional Behavior (27.4)	Anger (35.1)
	Treatment Engagement (29.8)	Depressed Mood (25.7)	Academic Achievement (22.9)	Treatment Engagement (28.8)	Treatment Engagement (26.0)	Positive Peer Interaction (27.0)
	Academic Achievement (26.4)	Academic Achievement (24.3)	Positive Peer Interaction (22.9)	Academic Achievement (26.9)	Depressed Mood (23.3)	Self-Esteem (24.3)
Targets: *M* (*SD*)	4.3 (2.5)	4.2 (2.2)	4.1 (2.5)	4.5 (2.6)	4.2 (2.3)	4.6 (2.4)